lings given had in view the joists of dwelling-house floors, and rafters carrying medium sized slating, the material fir, the distance asunder 12 inches, and the rate of weight sustained supposed to be similar in all cases, and diffused uniformly throughout. In the diagrams exhibited, the base line of the upper scale shewed what should be the respective depths of level joists of the thickness of an inch and a half, for bearings, up to 25 feet, the concentric curves bringing the bearings which were set out on the right-hand boundary line, to measure on the scale of inches. The eradiating thread gave, on the same principle, the depths of sloping rafters of like thickness, to any pitch up to 60 degrees, the point of intersection with the concentric curves of bearing shewing the measure on the scale of inches produced upwards. It would be remarked, observed the author, that the higher the pitch of the rafter, the less is its depth to the same bearing; the principle of this would at once be understood when it was remembered that the load being a downward pressure, the cross section of the timber was to be considered vertically, not at right angles to its inclination. The mode of using the lower scale was explained by an example. Suppose that in seeking the scantlings for a 16 foot rafter of the pitch of 25 degrees, to which the upper scale of inch-and-half thicknesses assigns a depth of 12½ inches, they wanted the thickness to be 2½ instead of 1½, it was only necessary to slide the vertical scale of inches till 12½ coincided with the left-hand termination of the 16 foot curve, and they found that the intersection of the latter with 2½ inches of the scale at the top produced downwards, was at the level of 11 inches on the vertical scale, and which was the equivalent depth required.

Mr. Scott Russell said the description of this instrument was given in a simple and intelligent manner, and with perfect accuracy. For the purpose of ascertaining the scantlings of timbers this was an exceedingly practical and useful invention. It was, in fact, a mathematical calculation rendered mechanical, and whilst it would be found advantageous to those who were not mathematicians, it would also assist those who were, ascertaining whether their calculations were right.

The Chairman and Sir Thomas Deane also expressed their approval of the invention, the latter gentleman moving a vote of thanks to the author, which was carried by acclamation.

LONDON AS IT WAS, AND AS IT IS IN 1844.

(*Continued from p. 492.*)

As we are not giving the history of clubs existing in the present day, which alone would well fill three octavo volumes, we pass on to *The Senior United Service Club*: this building does little credit to its very favourable position; it has a poor and insipid appearance, and its interior is cold and comfortless, the barn-like dimensions of the principal rooms finding no relief to the dull, monotonous walls and ceilings, except by a sprinkle of lace jackets on a gala day.

The Athenæum is another specimen of architectural taste, having all the appliances of situation in its favour. This edifice was erected soon after the removal of Carlton House; the club was ostensibly formed for literary men; several eminent architects are now members of it.

The Travellers' Club, built by Messrs. Lee, after the design of Mr. Barry. This was the first bold step made by an English architect to break through the trammels of custom. Its interior is fitted up with the elegance suited to a limited number of gentlemen of the highest standing in society. The original estimate for building it was 19,000*l.*, the ultimate cost 29,557*l.* 16*s.*

It is foreign to our purpose in this review of the Clubs of London to enter into the history and adventures of each, our primary object being to afford to the reader a slight but amusing panoramic view of this our celebrated city, such as it was and is, whereby all may judge how far we have improved by change in our manners and customs, and how far we keep pace in the arts and sciences, with the general increase of wealth and numbers. Prior to 1800, we had no building of any magnitude in the form of a club-house; nor was it then at all necessary, for the social bond of good fellowship was so lightly drawn, as to render it rather the object of ambition than of satiety. Men meet occasionally for the purpose of amusing and being amused—of instructing and being instructed—without reference to the rank and fortune of each other, wit and scholastic or travelled learning being the chief recommendations; and in departing from this amiable simplicity of the older clubs, the spirit by which they were animated has been wholly extinguished, giving place to a system altogether different. In the new order of things, the definition of Johnson is no longer applicable; clubs are no longer associations of good fellows, but associations of men united according to caste, political or other feeling, and governed by certain rules and regulations. The first and most important object of all, as previously observed, is to unite the economy of a chop-house with the superior accommodation of a first-rate hotel; the minor objects of many are to supply the want or necessity of a town-residence, to form a *locus standi* in society, to kill time, to learn the news, to discuss politics, polemics, or war, the sports of the field or of the town, the merits of the last new work or play, or opera-dancer, the chances of a ribbond, or of a vacancy in court or camp, church or state, being bound together like man and wife for life, or so long as they continue to pay the tax levied on themselves.

In thus dividing into castes, they have assumed a character of greater exclusiveness than the older clubs, which is still further promoted by many men of rank and wealth being members of several clubs at the same time, to the exclusion of those who are desirous of becoming members, and to whom, during their winter sojourn in the metropolis, such places would be beneficial. Again, the clubs degenerate into an abuse, when, as is often the case, men use them as the current coin of their respectability; and there are instances in some of the minor clubs, of men about town who live entirely on the strength of their club-card, backed by the fallacious appearance of a black servant, an elegant saddle, watch, or rings. Numbers of these men might be seen during the speculating mania, figuring at the head of bubble companies, and joint-stock adventures, having no other stock of their own but that of assurance, not readily put down even by exposure.

The clubs, apart from these considerations, have benefited London by contributing to increase its magnificence; to the first tasteless samples of architectural feebleness have been gradually added others, which, for taste and magnificence, give way to none in Europe. Pall-Mall, St. James's-street, and St. James's-square, give promise of becoming continuous ranges of magnificent palazzos, rivalling each other in their internal and external decorations.

Behind the clubs, and fronting towards St. James's Park, are two ranges of lofty houses, divided from each other by the Duke of York's Monument; they are raised on a substructure, which contains their kitchens and domestic offices, forming a terrace 50 feet wide, adorned with Pæstum-Doric columns surmounted by a balustrade. The superstructure consists of three stories, ornamented with Corinthian columns. Resuming our review: the Haymarket in 1735 was full of inns and houses of entertainment, especially on the west side. The Opera House was erected by Sir John Vanbrugh for the purpose of Italian operas. The prices given at that period were considered very expensive, varying from 1,000 to 1,500 guineas per annum; and the celebrated Farinelli is said to have netted 2,000 guineas at his benefit. What would our ancestors say to present prices?

In 1645, the precinct of Covent Garden was separated from St. Martin's, and constituted an independent parish, which was confirmed after the Restoration, in 1660, by the appellation of St. Paul's, Covent Garden. The church in Covent Garden has at its eastern front a plain but noble portico of the Tuscan order, having four massive columns, the two extreme ones square, and those between them round, and the intercolumniations being wide.

The ground on which the greatest part of Covent Garden parish stands was anciently a large garden belonging to the abbot and convent of Westminster; which garden, after the dissolution of religious houses, was bestowed by King Edward VI. upon Edward, Duke of Somerset. Upon his attainder, Edward, on the 6th May, 1552, granted it, together with a field contiguous to the north, denominated the Seven Acres, but from its length vulgarly termed the Long Acre, to John, Earl of Bedford. This earl erected a house for his town residence on the north side of the Strand, at the bottom of what is now Southampton-street; this, which was a mean wooden building inclosed by a brick wall, remained till the year 1704, and had a garden whose northern boundary was the southern side of the present market. The estate being greatly improved, Francis, Earl of Bedford, in 1640, employed Inigo Jones to build a chapel-of-ease to St. Martin's for the convenience of his tenants; his sons were allowed 4,000*l.* on account of this building and endowment of this church by Oliver Cromwell, out of the fines they were liable to pay by virtue of his Act to prevent the multiplicity of buildings in and about the suburbs of London. The building and adornment of Covent Garden Market as it now appears were a boon conferred upon the surrounding inhabitants, and particularly to the temporary occupants of the buildings over the piazza; they have not only added to the usefulness of the market and the accommodation of the fruiterers and market-gardeners, but they have also been the means of clearing away an abominable nuisance of heaps of putrid vegetables, and scenes of drunkenness, and abuses now pretty nearly concentrated within the pale of Billingsgate. Covent Garden was formerly an arena in which to pass through the ordeal of pillory, for when the will to punish was not wanting, there was no lack of rotten eggs and garbage to furnish the material. * * * *

(*To be continued.*)

OPENING OF THE ALBERT BRIDGE, MANCHESTER.

On Thursday, the 26th of last month, the Albert Bridge, a fine new structure, which is just finished, and which connects the boroughs of Manchester and Salford, was publicly opened by the authorities of the two boroughs, and the magistrates of the county. The bridge has been built at the expense of the county, and is a very substantial erection thrown across the river Irwell by one arch. The carriage and footways of the bridge measure together 18 yards from within the battlements.

About one o'clock the magistrates arrived, and were loudly cheered by a very large number of persons who had assembled at each end of the bridge to witness the ceremony. They were shortly followed by the mayors and corporations of the boroughs of Manchester and Salford, each body forming a separate procession, headed by the military bands now stationed in the boroughs, and followed by a large number of the most respectable inhabitants of both townships. The Salford procession was joined by the churchwardens and sidesmen.

Amongst the gentlemen present we noticed Sir Thomas Potter, Knt.; James Kershaw, Esq., late mayor of Manchester; R. S. Sowler, Esq., barrister-at-law; W. Garnett, Esq.; W. Wanklyn, Esq., of Pendleton; J. H. Wanklyn, Esq., of Pendleton; Joseph Brotherton, Esq., M.P., &c. Mr. Charles Carrington, the bridgemaster for this county, and Mr. Broadhurst, treasurer to the borough of Manchester, had provided an excellent supply of wines, &c., which were laid out on a large table, temporarily fixed on the north-easterly side of the bridge for the occasion. The two bands stationed themselves in front of the company, and played several airs during the proceedings.

W. Garnett, Esq., chairman of the bridge committee, addressed the company at considerable length, pointing out the advantages that would be derived to both boroughs by the new bridge. He congratulated the authorities and the gentlemen present on the rapid improvements that were going on in the towns of Manchester and Salford. He called attention to the condition of Manchester, now with its wide and spacious streets, in which only a few years ago two carts could not pass each other. He well recollected the time when there was but one bridge for carriage across the Irwell, and now there were five, some of which were ornaments to the town. After some other observations, he christened the new structure "The Albert Bridge," which was received with loud cheers. Mr. Garnett afterwards gave, "The Queen," "Prince Albert and the

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